

REMARKS/ARGUMENTS

Claims 2, 13, 18-20 and 28 are canceled. Claims 1, 3-12, 14-17, 21-27, and 29-39 are pending.

The Examiner rejected claims 1, 3-6, 9-12, and 14-17, 24, 32, 33, and 35 under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,895,740).

Claims 1, 14, and 24 recite that the formation of a conformal layer by a first and second deposition of first and second gas chemistries which is not made obvious by the cited references. The Examiner agrees that this is not expressly taught by Chien. The Examiner stated Chien discloses that changes of ratio are the result of effective variable that affects the thickness of the deposited layer, citing Chien et al., column 5, lines 43-62 and that it would have been obvious to change the reacting gas ratio to an amount which would not be expected to significantly affect the characteristics of the deposition process. The cited section of Chien et al. teaches that one set of process parameters provides a thinner polymeric layer and that another set of process parameters provides a thicker polymer layer. Therefore, one set of processing parameters may be selected to provide a thinner polymeric layer and another set of processing parameters may be selected to provide a thicker polymeric layer. Nothing in the cited section teaches changing the process parameters during the deposition or that the process parameters would change during the deposition. Therefore, the Examiner failed to point out anything in Chien et al that teaches or suggests the formation of a conformal layer by a first and second deposition of first and second gas chemistries. For at least these reasons, claims 1, 14, and 24 are not made obvious by Chien.

The Examiner rejected claims 7, 8, 30, and 36 under 35 U.S.C. 103(a) as being unpatentable over Chien et al. (US 5,895,740) in view of Yamamoto et al. (U.S. 4,151,034).

Dependent claims 3-12, 15-17, 30, 32, 33, 35, and 36 are also patentably distinct from the cited references for at least the same reasons as those recited above for the independent claims, upon which they ultimately depend. These dependent claims recite additional limitations that further distinguish these dependent claims from the cited references. For example, claims 3 and 16 recite a third deposition with the first gas chemistry and a fourth deposition with the second gas chemistry. It would not be obvious to provide a third deposition using the first gas chemistry

and a fourth deposition using the second gas chemistry. The Examiner failed to point out anything that discloses or makes obvious alternating the gas chemistry.

In addition, claims 7, 8, 30, and 33 recite stripping the photoresist mask and conformal layer with a single stripping step. The Examiner cited col. 1, lines 7-17, of Yamamoto as teaching such a single stripping step. Yamamoto, col. 1, lines 7-17, discloses that a gas plasma for etching silicon nitride or ashing photoresist. However, Yamamoto does not teach stripping a photoresist and conformal layer in a single step. The silicon nitride in Yamamoto is not stripped, but instead etched. If such etching was performed during the strip, the silicon oxide would also be etched, which is undesirable. Claim 7 does not recite a simultaneous stripping and etching, but instead stripping a conformal layer and a photoresist mask in a single step.

In addition, claims 4 and 11 further recite that the second critical dimension is not greater than 70% of the first critical dimension. Nothing in the cited references teaches or suggests that the combined references would successfully reduce the critical dimension to the claimed amount. The ability to provide sufficiently conformal walls to allow such a reduction was an unexpected result. The Examiner stated that Chien et al. teaches that the thickness of the conformal layer may be controlled by changing various parameters. However, Chien does not teach or suggest that it is possible to provide a conformal layer with a thickness sufficient to reduce the critical dimension by more than 30%. For at least these reasons, claims 3-12, 15-17, 30, 32, 33, 35, and 36 are not anticipated or made obvious by the cited references.

The Examiner stated that claims 21-23 and 25-27 are allowed.

The Examiner stated that claims 31, 34, and 37-39 would be allowable if rewritten in independent form to include all limitations of the base claim and any intervening claims. Applicant's attorney appreciates the Examiner's comments and will amend the claims accordingly, if required at a later time.

The Examiner did not state whether or not claim 29 would be allowable. The Examiner did not provide any grounds for rejecting claim 29.

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a

telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number (650) 961-8300.

Respectfully submitted,

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